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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/671,971	09/25/2003	David W. Gish	42P17016	8875

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EXAMINER

ZAMAN, FAISAL M

ART UNIT PAPER NUMBER

2112

DATE MAILED: 08/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/671,971	<b>Applicant(s)</b> GISH ET AL.	
	<b>Examiner</b> Faisal Zaman	<b>Art Unit</b> 2112	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 07 August 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07 August 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Amendment***

#### ***Drawings***

1. The drawings are objected to because "black boxes" in Figure 3 (items 302, 304, and 306) should be accompanied with text labels describing what each "black box" is. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

#### ***Claim Objections***

2. Claims 5 and 15 are objected to because of the following informalities:

Claim 5, line 1, "herein the range" should be --wherein the range--.

Claim 15, line 3, "ach one of the bidders" should be --each one of the bidders--.

Appropriate corrections are required.

***Claim Rejections - 35 USC § 101***

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 15-17 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Since "an article comprising a medium storing instructions" is not specifically defined in the specification, it could be taken to mean a wireless transmission medium, such as an RF signal or infrared signal, which are well known in the art to be used in the type of system disclosed. The examiner suggests Applicant to specify a tangible item such as "an article comprising a *storage* medium storing instructions".

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. **Claims 1-4, 6, 7, 9, 10, and 14** are rejected under 35 U.S.C. 102(e) as being anticipated by Kato (U.S. Patent No. 6,961,793).

**Regarding Claim 1**, Kato discloses a method for arbitrating a resource comprising:

Setting  $n$  weight values for  $n$  bidders (Column 5, lines 5-7; Column 6, lines 13-16; where the “basic priority data” is equivalent to the  $n$  weight values and “plurality of bus masters” is equivalent to the  $n$  bidders);

Setting  $n$  accumulator values for  $n$  bidders, wherein the  $n$  accumulator values are based at least in part on the  $n$  weight values (Column 5, lines 7-13; Column 6, lines 16-20; where the “arbitration priority data” for the plurality of bus masters is equivalent to the “ $n$  accumulator values for  $n$  bidders”);

Granting one of the  $n$  bidders to receive access to the resource based at least in part on the accumulator value (Column 5, lines 13-23; Column 6, lines 20-25), and then decrementing the selected bidder’s accumulator value (Column 5 line 66 – Column 6 line 5; also Column 10 line 57 – Column 12 line 6, or Column 12 lines 7-60); and

Increasing the accumulator value within a predetermined range (e.g. 0 to 7) for the  $n-1$  losing bidders, wherein a probability of the  $n-1$  losing bidders for accessing the resource is increased based on a respective standing of the accumulator value within the predetermined range (Column 12, lines 13-15; ie. by increasing the priority for each of the losing bidders/masters in each cycle, the probability of that master having access granted in the next cycle increases).

**Regarding Claim 2**, Kato discloses adjusting the accumulator values (ie. the arbitration priority data) of the remaining bidders based at least in part on the range of values (Column 5 line 56 – Column 6 line 5; Column 10 line 57 – Column 12 line 6).

**Regarding Claim 3**, Kato discloses wherein the weight values (ie. the basic priority data) are initially set according to a priority of the bidder (ie. the bus master) (Column 8, lines 50-53).

**Regarding Claim 4**, Kato discloses wherein the accumulator values (ie. the arbitration priority data) are initially set to a midpoint of a range (Column 5, lines 5-13).

**Regarding Claims 6 and 7**, all the same elements of Claim 1 are listed, but in apparatus form rather than method form. Therefore, the supporting rationale of the rejection to Claim 1 applies equally as well to Claims 6 and 7.

**Regarding Claims 9 and 10**, all the same elements of Claim 3 are listed, but in apparatus form rather than method form. Therefore, the supporting rationale of the rejection to Claim 3 applies equally as well to Claims 9 and 10.

**Regarding Claim 14**, Kato discloses wherein the apparatus is a chipset (Figure 1, item 40, Column 1, lines 25-31).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 5 and 8** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato.

**Regarding Claim 5**, Kato does not expressly disclose wherein the range of values is based on a quartile, the accumulator value is incremented by one if the accumulator value is within 76-99% of the range, the accumulator value is incremented by two if the accumulator value is within 51-75% of the range, the accumulator value is incremented by three if the accumulator value is within 26-50% of the range, the accumulator value is incremented by four if the accumulator value is within 0-25% of the range.

However, Kato teaches wherein the accumulator values (ie. the arbitration priority data) of each of the bidders (ie. the bus masters) is increased if the accumulator values is not at the highest value at the time of the arbitration, based on an "oldest bus acquiring master priority system" (see Column 12, lines 7-60).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made that the use of a quartile priority system as disclosed in Claim 5 would have been advantageous for use in the arbitration system of Kato, for the purpose of having a more efficient and accurate bus prioritization system.

**Regarding Claim 8**, all the same elements of Claim 5 are listed, but in apparatus form rather than method form. Therefore, the supporting rationale of the rejection to Claim 5 applies equally as well to Claim 8.

8. **Claims 11-13** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato in view of Applicant's Admitted Prior Art (hereinafter "AAPA").

Kato discloses the apparatus of Claim 6 as described above.

Kato does not expressly disclose wherein the bidder is either one of a modem, keyboard, video controller, serial port, or PCMCIA card, SONET interface, Ethernet Interface, content processor, encryption device, or compression device; or wherein the resource may be an interconnect bus, memory unit, or output buffer; or wherein for a peer-to-peer communications system, the bidder is also a resource.

In the same field of endeavor (e.g. bus access arbitrating methods), AAPA teaches wherein the bidder is either one of a modem, keyboard, video controller, serial port, or PCMCIA card, SONET interface, Ethernet Interface, content processor, encryption device, or compression device; wherein the resource may be an interconnect bus, memory unit, or output buffer; and wherein for a peer-to-peer communications system, the bidder is also a resource (Page 2, paragraph 0002).

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined AAPA's teachings of bus access arbitrating methods with the teachings of Kato, for the purpose of increasing efficiency



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and fairness in bus access arbitration (see AAPA, Page 2, paragraph 0003). Kato also provides motivation to combine by stating it is an object of the invention to provide a bus arbiter, in which it is possible to efficiently arbitrate bus access requests with a simple structure.

**Claims 15-17** are directed to an article comprising a medium storing instructions that, when executed result in the method of Claims 1-5. **Claims 18-20** are directed to a system of the method of Claims 1-5. Kato teaches the method of Claims 1-5, as described above. Therefore, Kato also teaches the article comprising a medium storing instructions of Claims 15-17 and the system of Claims 18-20.

### ***Response to Arguments***

9. Applicant's arguments filed August 7, 2006 have been fully considered but they are not persuasive.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "the Applicant's arbitration ... do NOT depend on timing status, but depend on the accumulator's standing within a range based at least in part on the initial user-defined weight value and/or priority") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

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Applicant argues that the "cited art's arbitration relies on timing information to determine the 'oldest' bus [acquiring master] with respect to time." The examiner disagrees. Contrary to Applicant's argument, the arbitration scheme disclosed in Column 12, lines 7-60, of Kato teaches that the accumulator value (e.g. the arbitration priority data) of each of the masters is increased every time that that particular master is not granted access to the bus (e.g. is a losing bidder/master). Therefore, since it's priority is increased every time as long as it is not granted access to the bus (see Column 12, lines 12-15) the probability of that particular master (e.g. the losing bidder/master) to have access to the bus granted in the next cycle is increased.

Therefore, the pending claims stand as previously rejected, to the extent they have been claimed.

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

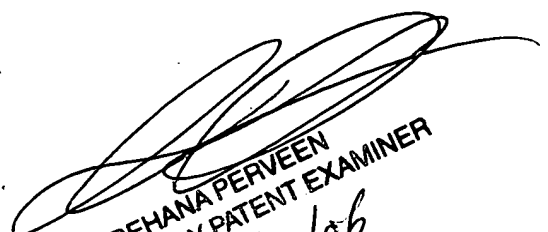
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Faisal Zaman whose telephone number is 571-272-6495. The examiner can normally be reached on Monday thru Friday, 8 am - 5:30 pm (every-other-Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rehana Perveen can be reached on 571-272-3676. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

fmz

  
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8/19/06